

For Internal Use Only  
Gold King Mine Release  
EPA Internal Update: August 17, 2015 1345 ET  
*HQ EOC will move to a 48-hour reporting cycle due to changing site conditions*

## Situation Summary

**Overview:** On August 5, a large release of mine wastewater into Cement Creek occurred while an EPA site assessment team was conducting site investigation activities. Loose material collapsed into the cave entry and pressurized water began leaking above the mine tunnel, spilling an estimated three million gallons of water stored behind the collapsed material into Cement Creek, a tributary of the Animas River. The release's path currently flowed through three of EPA's regions: Region 8—Colorado, Utah and the Southern Ute Tribe; Region 6--New Mexico; and, Region 9--Navajo Nation. The mine water is being treated in a series of four settling ponds constructed near the portal. The La Plata County Sheriff opened the Animas River to recreational use on August 14 with a health advisory from Colorado Department of Public Health and Environment (CDPHE). EPA's Airborne Spectral Photometric Environmental Collection Technology (ASPECT) aerial reconnaissance combined with observations on the ground indicate that the plume associated with the Gold King Mine release has dissipated downstream. There is no leading edge of contamination visible in downstream sections of the San Juan River or in Lake Powell. EPA has procured 24-hour security on the road leading to the Gold King Mine. Unified EPA Area Command (UEAC) has been preparing for visits scheduled by Congressional members, state officials from Colorado and Utah, EPA Region 8 officials, Navajo Nation officials, and OSWER HQ personnel.

**Public Website:** A public-facing website has been created for the response: <http://www2.epa.gov/goldkingmine>. Sampling data has, and will continue to be, posted to this website.

**Response Organization:** EPA is integrated in UEAC in Durango, CO and in three Incident Command Posts (ICPs) in Silverton and Durango, CO and Farmington, NM. The Farmington, NM ICP is composed of two branches: one in Farmington, NM and another in Lake Powell at the Arizona and Utah Border. UEAC stood up operations in Durango, CO with representatives from several EPA Regions. Activities underway include:

- Coordinating activities from the various Incident Command Posts in the Regions.
- Consolidating situation reports from the ICPs into a single Unified EPA Area Command situation report.
- Routing resource and funding requests from the ICPs to HQ EOC.
- Reviewing sampling data and developing public messaging to include the development of a wider message that river conditions are returning to normal. This will include the development of Question and Answer sheets and fact sheets.
- Determining staffing needs for EPA hotlines and to develop a plan to consolidate data from the various call centers and establish a central database for this call data.
- To prepare for visits scheduled by Congressional members and OSWER Headquarters personnel.

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- To minimize fatigue of response and IMT personnel and to provide CISM.
- To conduct safety risk management and mitigation practices.

The Headquarters Emergency Operations Center (HQ EOC) activated to Level 1 Operations on Tuesday, August 11.

### Unified EPA Area Command (UEAC)

UEAC has activated for this response and will consolidate situation reports, coordinate data messaging, establish screening levels, manage the toll-free general incident hotline phone number, and coordinate finance and resource requests from the Regional ICPs to HQ EOC. As of August 17, the leadership of the UEAC has transitioned and the UEAC is requesting a Documentation Unit Leader.

### Region 8 UICP (Durango and Silverton, CO)

Highlights: At 1400 MDT, August 14, the City of Durango resumed pumping water from the Animas River for further treatment. This decision was made in conjunction with the CDPHE. The City will continue to analyze water quality samples, based on pre-established protocols. The City has also lifted the outdoor irrigation restrictions, and encourages responsible outdoor irrigation.

General Call-in Phone Number: Region 8 maintains a general incident hotline phone number for Region 8. Call number activity is listed as follows

Toll-Free Number Activity	As of August 15	Total to Date
Well Water Test Scheduling	6	338
Water Concerns	4	104
Health Concerns	0	31
Recreation	0	20
Ecological Concerns	0	17
Livestock/Irrigation	2	19
Tourism/Media	0	52
Volunteer Offers	0	21
General Concerns	1	120
<b>TOTAL</b>	<b>14</b>	<b>722</b>

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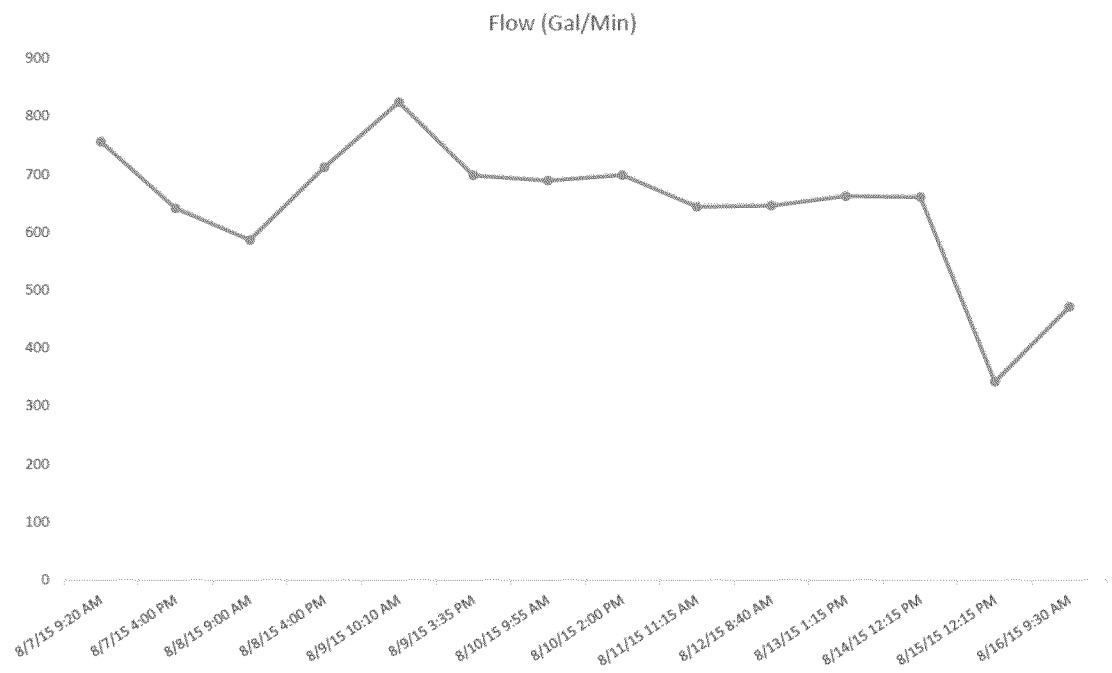
Water Sampling:

The EPA initiated a surface water quality sampling effort on August 5, to assess the impacts of the release at the Gold King Mine. Region 8 has also been coordinating private well sampling, with both EPA and State teams (including contractors) collecting well samples in Colorado. EPA has been sampling all wells that have been requested, but is now creating a prioritization process since the demand is so high. Region 8 staff have created a list of private wells in the alluvial zone near the river, and is now sorting that list by distance to the river. The analysis of these samples include pH, dissolved concentrations of metals and total metals. Bottled water shipments from local suppliers have been occurring daily and distributed as requested. As of August 15, 1,120 cases of bottled water have been purchased to hand out to the community. The CDPHE, and public water systems regulated by CDPHE in the impacted area, are taking raw and finished water samples to monitor water quality. The City of Durango in coordination with CDPHE has resumed pumping water from the Animas River for their water treatment plant.

The EPA continues to operate four treatment and sedimentation ponds at the mine site which are treating water by lowering acidity levels and removing dissolved metals. A technical expert from CDPHE is assisting at the Gold King Mine site in optimizing the water quality treatment system.

Flow from the mine through the morning of August 16 is shown in the following chart.

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Treated water from the last treatment pond is discharging into Cement Creek. Flow data out of the mine is being collected manually two times per day. Water quality data is being collected at the influent and effluent of the treatment system as well.

Ditch and property assessments will continue with focus on whether any mitigation of private properties needs to be completed.

Daily residential well sampling and Animas River water quality continues at seven locations. Sediment samples on August 14 were taken from the intake of Animas-La Plata Nighthorse Reservoir. The count of samples by media as of August 15 is listed in the following table:

Matrix	Number of Samples
Potable Water	33
Sediment	3
Surface Water	7

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Out of 62 groundwater well results, there were four wells that exceeded drinking water standards Maximum Contaminant Levels (MCLs) for lead and arsenic. However, these samples were taken from the well head prior to going through the home treatment systems. Sampling of tap water from these residents is being scheduled as of this report. There is no indication that the release had impacted these wells.

Surface Water & Sediment Sampling: Baseline surface water quality data from the past 17 years has been obtained, and will be interpreted along with the new water quality data. Surface water quality samples were collected from 7 locations near Silverton, CO; two of these locations were on Cement Creek, and five of these were on the Animas River in Colorado. Sampling of the seven data points on the river will continue. The EPA has four sampling teams; one surface water and four well water in the field on August 15. Region 8 continues to operate four treatment and sedimentation ponds at the mine site that are treating water by lowering acidity levels and removing dissolved metals. Treated water from the last treatment pond is discharging into Cement Creek and is measured at levels below (higher pH and lower levels of metals) the pre-event, background conditions in the creek. The treatment pond effluent pH on the afternoon of August 13 was 4.95.

Agriculture/Livestock: EPA Region 8 distributed 132,530 gallons of water for livestock and other agricultural purposes. Fish cages placed directly into the Animas River by the State of Colorado Division of Parks and Wildlife (CDPW) indicate only one fish mortality out of 108 fish tested. A Colorado State veterinarian has cleared water use for animals.

#### **Region 6 UICP (New Mexico Command, Farmington, NM)**

Highlights: At an August 14 community meeting, the NM Environmental Secretary announced that the State would begin ditch flushing that night. Ditch operators began flushing the ditches at 1900 MDT on August 14.

The State of New Mexico announced its determination that drinking water systems and recreational activity along the Animas and San Juan Rivers can resume based on water quality sampling results collected by both the New Mexico Environment Department (NMED) and the EPA. New Mexico opened the rivers at 2000 MDT on August 15.

General Call-in Phone Number: Region 6 created a general incident hotline phone number for Regions 6, 8, and 9: [(844) 607-9700].

<u>Toll-Free Number Activity</u>	<u>As of August 15</u>	<u>Total to Date</u>
Total Calls Received	5	122

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Calls Concerning Region 6	1	49
Calls Returned by Region 6	13	49

**Private Drinking Water Well Sampling:** In addition to the private water well samples taken as listed below, an additional five samples from the Southside and Flora Vista public water supply wells were taken as requested by the water systems

Date	Number of Private Wells Sampled
August 10	10
August 11	31
August 12	23
August 13	0 new locations (38 re-samples)
August 14	35
August 15	15
<b>TOTAL</b>	<b>114</b>

**Drinking Water Systems Update:** The towns of Morningstar and Farmington are completing the connection between their water systems. Plans are to complete this task on August 17. The water system operators will complete the connections and will operate the system once functional. Although the public water intakes have been opened it will take at least 48 hours for the system to completely come back on line.

On August 15, EPA began transporting and offloading raw water into Morningstar's pretreatment settling ponds. Seven trucks were dedicated to delivering raw water to Morningstar. It is not expected to significantly reduce the need for additional water supply.

**Surface Water & Sediment Sampling:**

	As of August 15	Total to Date
River Surface Water Samples	9	46
River Sediment Samples	9	76

**Irrigation Ditch Sediment Sampling:** Soil/sediment samples were taken at two private properties along the river on August 15 at the request of the local residents. Three samples were taken at one location and two at the other.

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	As of August 15	Total to Date
Non-River Sediment/Soil Samples	5	59

Agriculture/Livestock: Several agriculture locations rescinded their requests for water after New Mexico lifted the advisory restricting the use of private water wells. It is also anticipated that as the irrigation ditch water levels stabilize, water hauling deliveries will decrease.

	As of August 15	Total to Date
Farmers Served	2	22
Gallons to Farmers	141,960	974,190
Livestock Farms Served	5	22
Gallons to Livestock Farms	9,618	38,925

**Region 9 UICP (Navajo Command, Farmington, NM)**

Highlights: EPA Region 9 is focused on assessing the impacts of the release along a stretch of the San Juan River extending from Farmington, NM, to Mexican Hat, UT, and into Lake Powell. EPA will continue to sample, analyze, and make data available to support local decision makers moving forward to allow them to make the best informed decisions. EPA Region 9 continues to provide an alternative water supply and hay to the Navajo Tribal Utility Agency (NTUA) for agriculture and livestock. EPA Region 9 continues to coordinate with representatives from the Navajo Nation, Bureau of Indian Affairs (BIA), the states of Arizona, Utah, New Mexico, and federal agencies Bureau of Recreation, the National Park Service, and US Geological Survey.

Drinking Water Sampling: On August 15, EPA released additional water quality data from August 7-11 on the San Juan River between Farmington and Shiprock, NM. The August 7 data was collected for baseline purposes to understand river conditions at the Hogback monitoring location, prior to the impact of the upstream contaminants from the Gold King Mine release. To assess the impacts of the release at the Gold King Mine, water quality samples were collected at four locations for 24 metals. Each surface water sample was analyzed for metals including arsenic, cadmium, lead and mercury. Due to the highly variable conditions typical of this segment of the river, additional testing will be conducted, and EPA Region 9 will continue to work closely with the Navajo Nation EPA on assessing drinking water, agriculture, livestock, and other critical water needs.

Surface Water & Sediment Sampling: EPA Region 9 continues surface water and sediment sampling and monitoring (pH, conductivity, turbidity) along the San Juan River in the Navajo Nation at 11 monitoring sites. On August 15 surface water bottom water samples and sediment samples were collected at six locations on the San Juan Arm in Lake Powell. This included sample



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locations at what is believed to be the San Juan River inflow point into Lake Powell between Zahn Bay and Great Bend as well as the "plunge" area just east of Great Bend where river water plunges below the lake water. Both of these were deemed critical locations based on conversations with technical experts from various agencies. EPA was assisted by National Park Service (NPS) Glen Canyon who provided all logistical support including a 46- and a 26-foot vessel and three personnel.

Agriculture/Livestock: The Navajo Tribal Utility Authority (NTUA) has identified 13 locations of tanks for EPA to distribute water for agriculture and livestock use. EPA continues providing over 16,000 gallons of non-potable water per day to each of these locations. EPA continues to provide hay/alfalfa bales to Navajo Nation chapter locations for livestock needs.

Public Information/Community Outreach: EPA Region 9 Community Involvement Coordinators (CICs) continue to provide public outreach and communication across the Navajo Nation. They continue to hold public meetings with Chapter Houses. EPA continues coordinating field response efforts with Navajo Nation through an EPA representative in Window Rock, AZ. On August 15 joint chapter meetings were held in Nenahnezad, with participation from Upper Fruit Land, Hogback, Nenahnezad, and Gadii Ahi chapters. Over 200 people were in attendance.

## **EPA Headquarters**

The HQ EOC has been activated at Level 1 for this incident. HQ EOC tasks include:

- coordination of regional staffing and funding needs;
- participation in data calls to assist with interpretation of water and sediment data;
- exploration of various authorities and funding sources that might be available to the Agency in responding to this incident;
- determination of which public drinking water systems use the Animas River as a water source, if these systems have alternate sources for intake water, and how many days' supply they have; and
- assist with the development of messages for the public-facing website on the suitability of the water for various uses (i.e., drinking, recreational, agricultural, livestock).

HQ EOC EU and ORD: The HQ Environmental Unit (EU) has a list of labs via OEM's Environmental Response Laboratory Network (ERLN). The EU is coordinating a daily release of data results with UEAC. As per the HQ EOC Data Call on August 16, the Regions have been collecting well water samples for metals and ions. Results are being validated and will be distributed to HQ EOC for posting in the near future. The EU has been working with the EOC Manager, the EOC PIO and the regions on an agreed-upon template for data submission to HQ for review and posting, as well as text and a flow chart for describing the process of data flow from the regions to HQ EOC.



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HQ EOC Water: On August 14, the New Mexico Environment Department (NMED) lifted the ban on the use of private domestic water wells. On August 15, New Mexico lifted the ban on using the Animas and San Juan Rivers as the source for San Juan County's drinking water systems.

In the City of Durango, CO, an August 14 press release stated that the City resumed pumping raw water for drinking water treatment and distribution after independent sampling results supported such a decision.

HQ EOC OGC: A claims process exists for compensating citizens who suffer personal injury or property damage caused by U.S. government actions. The process is available in EPA's regulations at 40 CFR Part 10, and includes guidance on documentation that may be required to support claims for loss of employment and loss of income, among other claims.

HQ EOC PIO: EPA issued six press releases regarding the Gold King Mine Release incident, on August 8, 11, 12, 13, 14 and 15, respectively. The HQ EOC PIO has received over 150 press inquiries. In addition, the PIO is/has:

- posted Administrator McCarthy's video and statement about EPA ceasing field investigation work at mine sites, including tailings facilities;
- working to find subject-matter experts (SMEs) to serve as JIC reachback personnel;
- worked with the UEAC PIO to develop public messaging designed to explain data results and provide possible protective actions;
- reviewed *EPA Highlights* developed by Public Engagement staff;
- developed a draft claims submission fact sheet for impacted parties to show economic damages experienced by the mine release;
- reviewed and approved statements and social media posts. The posts have been translated and will be launched on the Spanish Facebook and Twitter accounts;
- continues to review and post data including a GIS map of surface water sampling data;
- provided vetted and approved responses to press officers resulting in closed media queries;
- reviewed and posted photos of the site and Animas River with captions;
- posted frequently asked questions about the spill response;
- reviewed and posted a fact sheet on the Gold King Mine;
- working to ensure the public is redirected from epaosc.org to the official EPA Gold King Mine Release Response website;
- reviewed and posted fact sheets; and
- developed a 24-hour coverage plan for the posting approval process.

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HQ EOC ATSDR: The ATSDR Desk continues to support the EU in evaluating incoming sampling data and the PIO in crafting appropriate health messaging.

HQ EOC Finance: EPA is still collecting financial information for this incident but the Finance Desk has conducted the following activities:

- Sent out Site Specific Charging Guidance to Regional Comptrollers and Senior Budget Officers (SBOs);
- Prepared spreadsheet to collect employee information for Pay Cap Waiver; and
- Sent out data call to Regions and Program Offices to collect employee information for Pay Cap Waiver.

HQ OSRTI Analytical Services Branch: OSRTI has been in communication with Region 8. At this time, Region 8 is not using the Contract Lab Program (CLP) for any sample analyses. OSRTI has put in place a modified analysis request/order to ensure a turnaround time of 48-hours for Inductively Coupled Plasma (ICP) Mass Spectrometry (MS) and Atomic Emission Spectroscopy (AES), and mercury analyses with the required Region 8 specifications. This request/order can be cancelled should Region 8 use another analytical service provider.

Other HQ activities:

- The Environmental Response Team (ERT) are providing support on the response and its activities include:
  - assisting with immediate water treatment, clearing of irrigation canals, and groundwater assessment;
  - assisting with presentation of information at public meetings in Farmington, NM;
  - providing support, including the use of Scientific, Engineering, Response & Analytical Services (SERAS) contract, on health and environmental data analysis and presentation;
  - providing remote support on longer term water treatment options;
  - engaging on data management;
  - providing phone support to Region 8 on analytical chemistry and metals analysis; and
  - working with HQ EOC on health and safety issues.

**NUMBER OF PERSONNEL INVOLVED:**

Region/State	Current EPA Personnel In Field	Current EPA Contractor	EPA Personnel in REOC /	Contractor Personnel in REOC /	Total

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	(All venues other than EPA Offices)	Personnel in the Field	HQEOC	HQEOC	
Region 8	20	30	24 (on call)	1	75
Region 6	22	33	23	5	83
Region 9	15	7	2	0	24
HQ EOC	1	8	22	2	33
Total	58	78	71	8	215

\*HQ EOC numbers reflect personnel supporting the response during the current operational period. Regional numbers reflect personnel responding to the incident on August 15, 2015.

**FINANCE:**

<i>Estimated Response Support Costs as of August 16</i>					
Region	EPA Cumulative Expended Payroll	EPA Cumulative Expended Travel	EPA Cumulative Other Charges	Cumulative Contract Costs	Total Cumulative Costs Expended
Region 8	\$490,459	\$52,250	\$0	\$589,415	\$1,132,124
Region 6	\$148,170	\$38,700	\$68,855	\$972,528	\$1,228,253
Region 9	\$129,600	\$33,750	\$0	\$428,588	\$1,591,938
TOTAL	\$768,229	\$124,700	\$68,855	\$1,990,531	2,952,315

<i>Estimated Burn Rates as of August 16</i>	
Region	Estimated Daily Burn Rate
Region 8	\$141,516
Region 6	\$136,473
Region 9	\$65,771
TOTAL	\$343,760